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Ecological and Biological Study of Macrobenthic Communities in Chalus Shore of the Caspian Sea

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Abstract

The Spatial and temporal variability of macrobenthos in the southern Caspian Sea (Chalus shore) were seasonally investigated from winter 2005 till fall 2006. Samples were taken with a Van Veen grab from depths of 7 and 20 meters along two transects, from Khate Hasht area (western part of coast) to Radio Darya area (eastern part of the coast). Totally, 5 classes of macrobenthos were identified in which the most abundant populations were Polychaeta 68.7% from abundance point of view. Density and biomass of macrobenthos in between seasons were significant ($P< 0.05$), as the maximum density and biomass of macrobenthos were during the summer and autumn (4251.8±1419 ind/m^2 and 475±243.8 g/m^2), respectively while the minimum density and biomass were during the spring and winter (725.9±64.5 ind/m2 and 0.3±0.1 (ME±SE) g/m^2). A significant correlation ($P< 0/05$) between the density and biomass of macrobenthos with sand percentage and total organic matter (TOM) were found in different seasons. The maximum diversity and richness (1.60±0.29 and 1.52±0.27) were during the autumn in the depth of 20 meter of Khate Hasht area, respectively while the minimum (0.85±0.27 and 0.86±0.22) were during the spring in the same depth and area. The maximum evenness (0.91±0.05) were during the winter in the depth of 7 meter of Radio Darya area and the minimum (0.55±0.13) were during the summer in the depth of 7 meter of Khate Hasht area. According to the results of ecological indices (diversity, richness and evenness) and comparison with the proposed standards, stress and pollution in Chalus shores are moderate.

Keywords: *Macrobenthos, Biological indices, Ecological indices, Chalus shore, Caspian Sea.*